

Service Manual



• PD-M601

ORDER NO.
ARP2434

MULTI-PLAY COMPACT DISC PLAYER

PD-M601

PD-M551

PD-M501

PD-M601, PD-M551 AND PD-M501 HAVE THE FOLLOWING :

Type	Model			Power Requirement	Remarks
			PD-M501		
KU	○	○	○	AC120V only	
KUXJS	○	○	○	AC120V only	
KC	○	-	○	AC120V only	
KCXJS	○	-	○	AC120V only	
WEMXJS	○	-	○	AC220V-240V	
WBXJS	○	-	-	AC220V-240V	
RD	-	-	○	AC110-127V, 220-240V (switchable)	
WPW	-	-	○	AC220V-240V	

- This manual is applicable to the following : PD-M601/KU, KUXJS, KC and KCXJS ; PD-M551/KU and KUXJS ; PD-M501/KU, KUXJS, KC and KCXJS.
- For the following : PD-M601/KUXJS, KC and KCXJS ; PD-M551/KU and KUXJS ; PD-M501/KU, KUXJS, KC and KCXJS, refer to page 39.
- For the other types, refer to applicable service manuals.

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This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

1. SAFETY INFORMATION

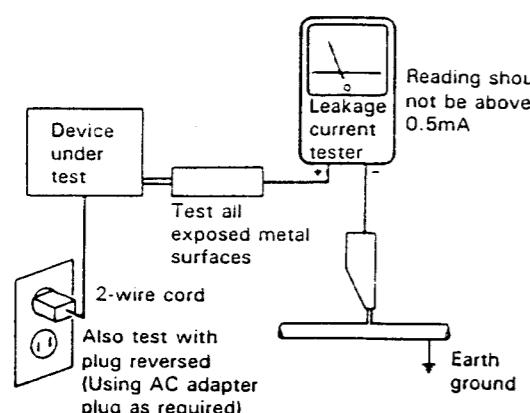
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a  on the schematics and on the parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

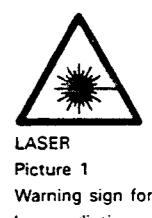
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

(FOR EUROPEAN MODEL ONLY)

VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTIINA NAKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.



WARNING!
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.



ADVERSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÄR SIKKERHEDSAFTRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

VARNING!
OSYNLIG LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780-785 nm

LABEL CHECK (MULTI MAGAZINE type)

WEMXJS type

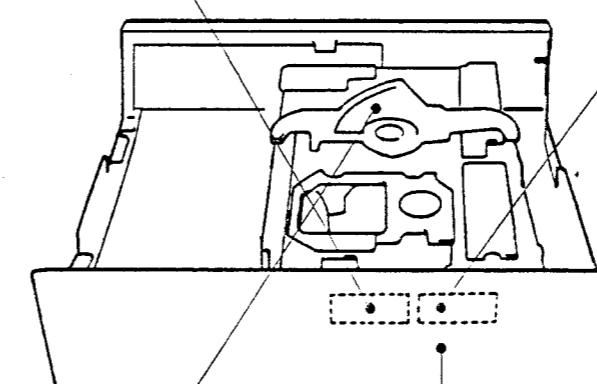
VARO!
Avattaessa ja suojalukitus ohitettessa olet altiina näkymättömälle lasersäteilylle. Älä katso sateeseen.
VARNING!
Osynlig laserstråning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.
PRW123

WEMXJS type

ADVARSEL
USYNLIG LASERSTRÅLING VED ÅBNING NÄR SIKKERHEDSAFTRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VORSICHT!
UNSICHTBARE LASER-STRÄHLUNG TRITT AUF, WENN DECKEL (ODER KLAFFE) GEÖFFNET IST! NICHT DEM STRÄHL AUSSETZEN!
PRW1094

WBXJS type

CAUTION
INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM
PRW1018



WEMXJS and WBXJS types

Additional Laser Caution

1. **Laser Interlock Mechanism**
The ON/OFF (ON : low level, OFF : high level) status of the LPS1 (S601) and LPS2 (S602) switches for detecting the loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when both switches LPS1 and LPS2 are not ON (low level) (clamped state).

Thus, interlock will no longer function if switches LPS1 (S601) and LPS2 (S602) are deliberately shorted. The interlock also does not operate in the test mode. Laser diode oscillation will continue, if pins 1 and 2 of M51593FP (IC101) on the preamplifier board loaded on pick up assembly are connected to GND, or pin 19 is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).

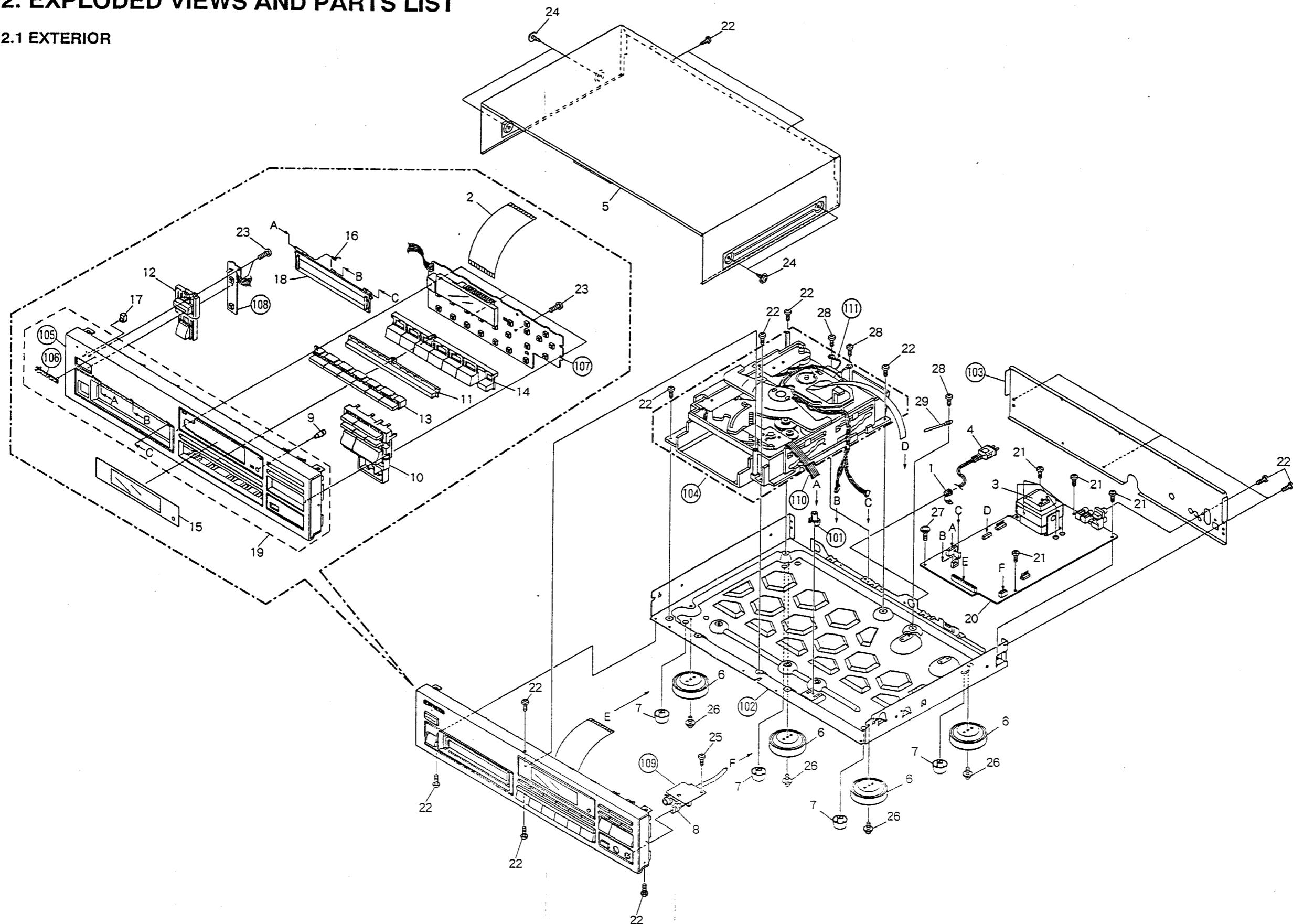
2. When the cover is opened with the servo mechanism block removed to be turned over, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

'92 M1

* : Refer to page 28.

2. EXPLODED VIEWS AND PARTS LIST

2.1 EXTERIOR



NOTES:

- The parts with an encircled number are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "◎" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

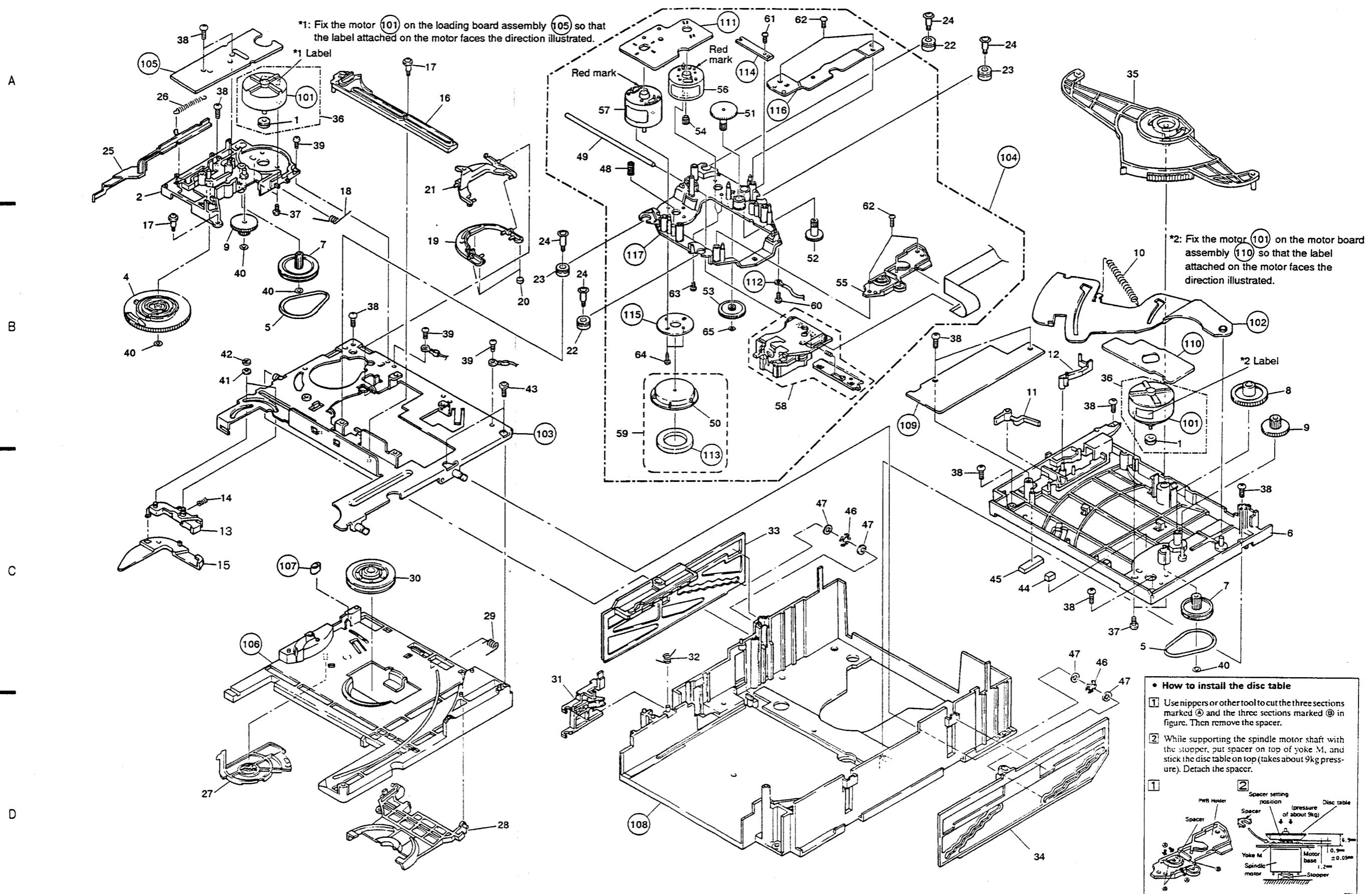
Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
Δ	1	Strain relief	CM-22		101	PCB mould	AMR1525
	2	32P F.F.C /30V	PDD1125		102	Under base	PNA1751
Δ	3	Power transformer	PTT1235		103	Rear base	PNA1752
Δ	4	Power cord with plug	RDG1010		104	Multi mechanism assembly	PXA1429
	5	Bonnet	PYY1149		105	Function panel	PNW2139
	6	Insulator (For PD - M601,M551)	PNW1912		106	Name plate	PAM1407
	7	Leg assembly (For PD - M501)	PXA1201		107	Function board assembly	PWZ2291
	8	Knob (Headphone)	PAC1370		108	Switch board assembly	PWZ2296
	9	Time button B	PAC1549		109	Headphone board assembly	PWZ2300
	10	Play button A	PAC1633		110	Flat cable (6P)	D20PYY0615E
	11	Fix button	PAC1639		111	Earth lead unit	XDF-502
	12	Power button A	PAC1642				
	13	Disc button	PAC1643				
	14	Program button	PAC1646				
	15	Display window	PAM1550				
	16	Spring(Door)	PBH1022				
	17	LED lens	PNW2019				
	18	Door	PNW2138				
◎	19	Function panel assembly	PEA1195				
	20	Mother board assembly	PWM1583				
	21	Screw	BBZ30P060FMC				
	22	Screw	BBZ30P080FZK				
	23	Screw	PPZ30P120FMC				
	24	Screw	FBT40P080FZK				
	25	Screw	IBZ30P060FCC				
	26	Screw	IBZ30P100FCC				
	27	Screw	IBZ30P180FMC				
	28	Screw	PDZ30P050FMC				
	29	Cord clamper	RNH-184				

2.2 MULTI MECHANISM ASSEMBLY

Parts List

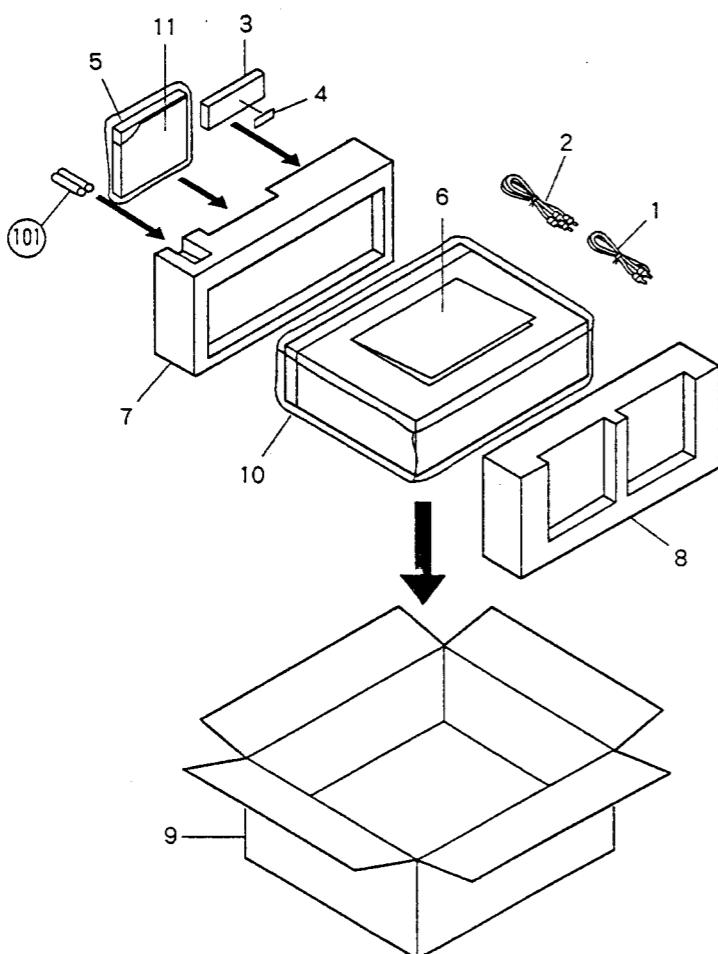
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
1		Motor pulley	PNW1634	49		Guide bar	PLA1094
2		Gear holder	PNW1929	50		Disc table	PNW1067
3		• • • •		51		Gear 1	PNW2052
4		Cam gear	PNW1923	52		Gear 2	PNW2053
5		Belt	PEB1138	53		Gear 3	PNW2054
6		Top guide	PNW1914	54		Pinion gear	PNW2055
7		Gear pulley	PNW1918	55		PWB holder	PNW2057
8		Gear S	PNW1919	56		Carriage DC motor / 0.3W	PXM1027
9		Gear L	PNW1920	57		D.C. motor assembly (spindle with oil)	PEA1207
10		Eject spring	PBH1107	58		Pickup assembly	PEA1179
11		Switch lever	PNW1927	59		Disc table assembly	PEA1035
12		Seven bar	PNW1931	60		Screw	BBZ26P060FMC
13		Sub rotary lever	PNW1933	61		Screw	BPZ20P060FMC
14		Sub rotary lever spring	PBH1111	62		Screw	BPZ26P100FMC
15		Rotary lever	PNW1932	63		Screw	JFZ17P025FZK
16		Drive plate	PNW1930	64		Screw	JFZ20P040FMC
17		Motor screw	PBA-112	65		Washer	WT12D032D025
18		Holder lever spring	PBH1110	101		Motor	VXM1033
19		Disc holder	PNW1924	102		Eject lever	PNB1306
20		Cushion A	PED1001	103		Upper chassis	PNB1267
21		Holder lever	PNW1925	104		Servo mechanism assembly M	PXA1417
22		Float rubber	PEB1014	105		Loading board assembly	PWZ2038
23		Float rubber	PEB1132	106		Sub chassis	PNW2027
24		Float screw	PBA1055	107		Rubber tube	PEB1171
25		Release lever	PNW1934	108		Main chassis	PNW2026
26		Release spring	PBH1106	109		Select board assembly	PWZ2039
27		Clamper cam	PNW1922	110		Motor board assembly	PWZ2040
28		Clamper holder	PNW1921	111		Mechanism board assembly	PWX1192
29		Clamper spring	PBH1109	112		Earth lead unit	PDF1118
30		Clamper	PNW1857	113		Clamp magnet	PMF1014
31		Lock lever	PNW1917	114		Gear stopper	PNB1303
32		Lock spring	PBH1108	115		Yoke M	PNB1312
33		Stair L	PNW1915	116		AV angle	PNB1405
34		Stair R	PNW1916	117		Carriage base	PNW2058
35		Synchronize lever	PNW1926				
36		Motor assembly (LOADING, DISC SELECT)	PEA1130				
37		Screw	PMZ26P040FMC				
38		Screw	PPZ30P080FMC				
39		Screw	BBZ30P060FMC				
40		Washer	WT26D047D025				
41		Washer	WA31D054D025				
42		E ring	Z39-010				
43		Screw	IPZ30P080FMC				
44		Rubber spacer	PEB1178				
45		Rubber spacer	PEB1179				
46		Silent ring	PBK1093				
47		Washer	WA62D130D025				
48		Earth spring	PBH1132				



3. PACKING

Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Connection cord with mini plug	PDE-319	9	CD packing case	PHG1753
2	Connection cord with pin plug	PDE1109	10	Mirror mat sheet	Z23-007
3	Remote control unit	PWW1068	11	PP case	PYY1141
4	Battery cover	PZN1010			
5	Magazine assembly	PXA1308	101	Dry cell battery(R03, AAA)	VEM-022
6	Operating instructions (English)	PRB1166			
7	Styrol protector (F)	PHA1198			
8	Styrol protector (R)	PHA1199			



4. IC INFORMATION

■ PD4396B (IC351)

System control

● Pin Function

No.	Mark	Pin Name	I/O	Function	No.	Mark	Pin Name	I/O	Function
1	RESET	REST		CPU reset (L : reset)	33	P02/S0	DATA	O	Serial output of LSI control data
2	T0	DG1			34	P03/S1	SQSO	I	Serial input of subcode Q data
3	T1	DG2			35	P10/INT	RMDT	I	Remote control data input
4	T2	DG3			36	P11	SCOR	I	Subcode synch. S0 + S1 input
5	T3	DG4			37	P12	INSD	I	Slider inside SW input (L : INSIDE)
6	T4	DG5	O*		38	P13	FCOK	I	Focus OK input (H : OK, L : NG)
7	T5	DG6			39	P20	L IN	O	Disc tray IN / OUT *1
8	T6	DG7			40	P21	L OUT		
9	T7	DG8			41	P22	DSDW	O	Disc selector UP/DOWN *2
10	T8	DG9			42	P23	DSUP		
11	T9	DG10			43	P30	LPS2	I	Load position SW input *3
12	PH3	MUTE	O	Muting output (L : Mute, H : OFF)	44	P31	LPS1		
13	PH2	SYC3	O	Synchro output	45	P32	DCNT	I	Disc selector count pulse *4
14	PH1	—		NC (Not used.)	46	P33	DCHM	I	Disc selector home *4
15	PH0	STBL	O	Standby LED output (L : Goes off, H : Light)	47	P60	MZS2	I	Magazine discrimination *5 SW input
16	S11	SL		SEGMENT output for FL drive	48	P61	MZS1		
17	S10	SK	O*		49	P62	SENS	I	Multi mode input of LSI operation state
18	VLOAD	—			50	P63	GFS	I	Frame sync. lock input (H : OK, L : NG)
19	VPRE	—			51	P40	MUTE		Muting output (H : Mute, L : OFF)
20	S9	SJ			52	P41	DLAT	O	Latch pulse for D/A converter IC
21	S8	SI			53	P42	XLAT		Latch pulse of LSI control data
22	S7	SD			54	P43	XRST		LSI reset (L : Reset, H : Release)
23	S6	SC			55	PP0	LDON		Laser diode output (H : OFF, L : ON)
24	S5	SB			56	X1	X1		Main system clock oscillation
25	S4	SA			57	X2	X2		
26	VDD	VDD		+5V	58	VSS	VSS		GND
27	S3	SH		SEGMENT output for FL drive	59	XT1	—		GND (Not used.)
28	S2	SG	O*		60	XT2	—		NC (Not used.)
29	S1	SF			61	P50	KD0/TEST		Key scan input and TEST mode required input
30	SO	SE			62	P51	KD1		
31	P00	SYNC1	I		63	P52	KD2		
32	SCK	CLOK	O	Serial clock	64	P53	KD3		

O* : Output terminals with pull-down resistor.

*1 : Loading selector

Tray	L OUT		L IN		
	IN	L	H	STOP	L
OUT		H	L		
STOP		L	L		

*3 : Loading position SW

CLAMP	LPS1		LPS2	
	L	L	H	H
LOADING				
HOME				
EJECT	H		L	

*4 : DISC select

2 - 6 DISC	DCNT		DCHM	
	L	H	L	*
HOME	L	L	L	*
During select	H			

*5 : Magazine discrimination

Magazine OUT	MZS1		MZS2	
	H	*	L	H
IN MULTI	L			
IN SINGLE	L	L	L	

5. SCHEMATIC DIAGRAM

5.1 Waveforms

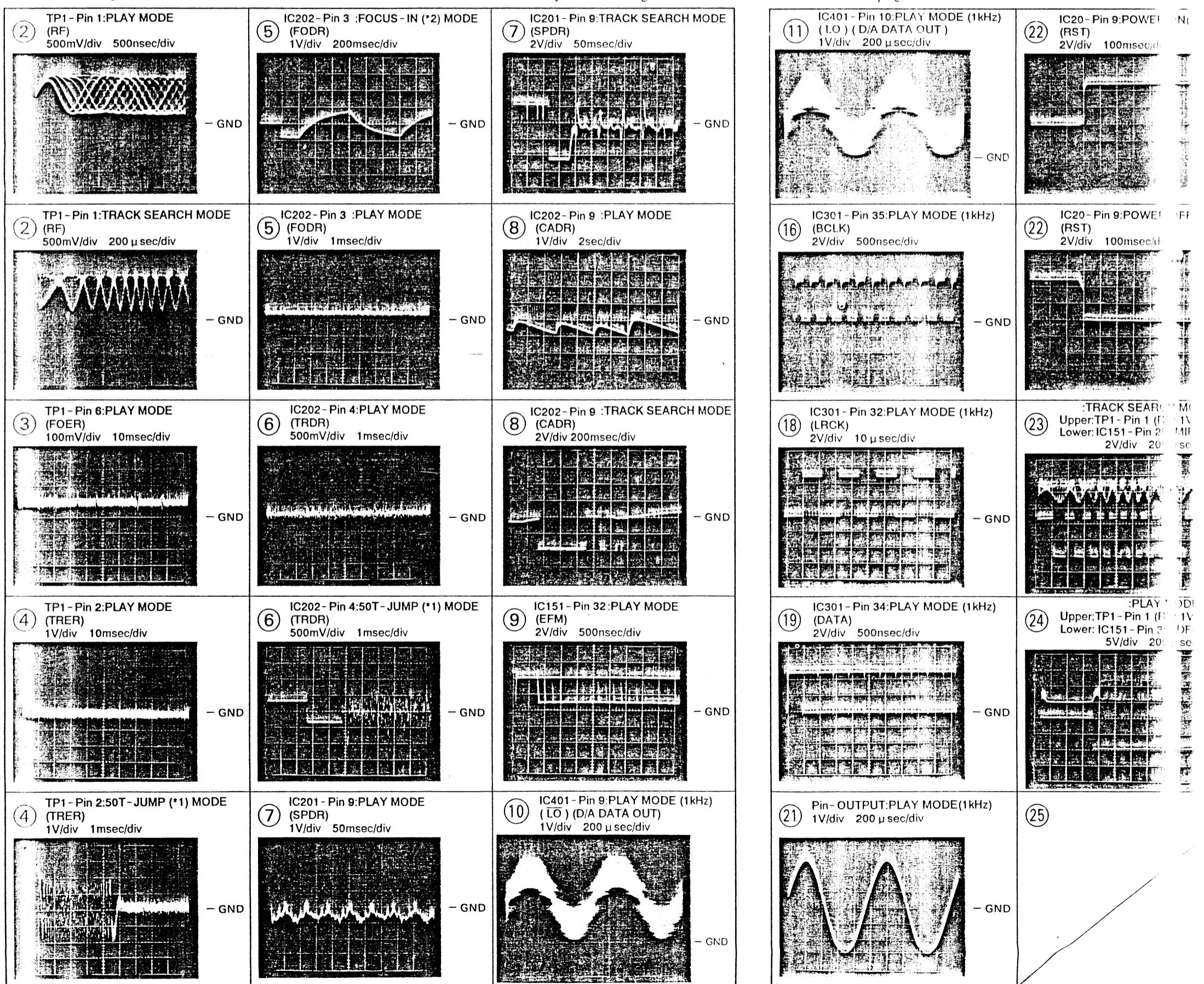
Note: The encircled numbers denote measuring points in the schematic diagram.

*1 50T-JUMP: After switching to the pause mode, press the manual search key.

*2 FOCUS-IN: Press the key without loading a disc.

*3 POWER ON: Plug AC cord into AC wall socket.

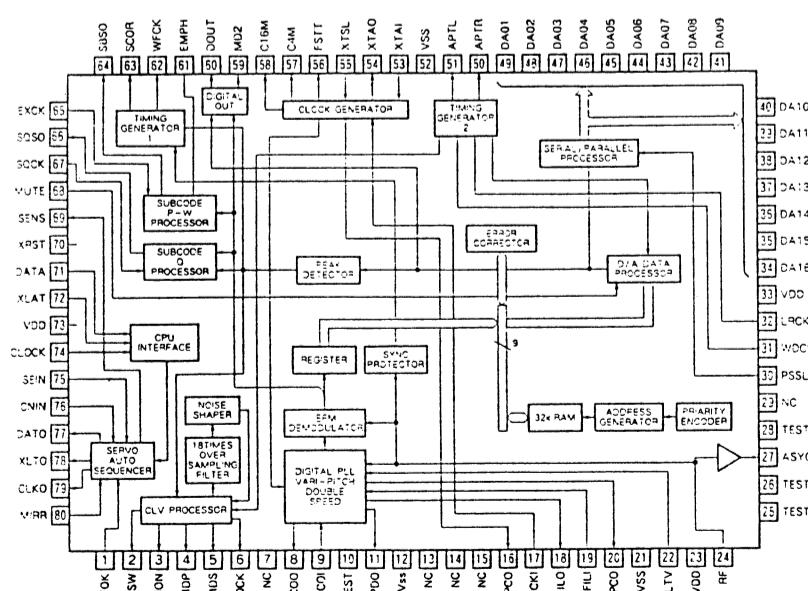
*4 POWER OFF: Unplug AC cord from AC wall socket.



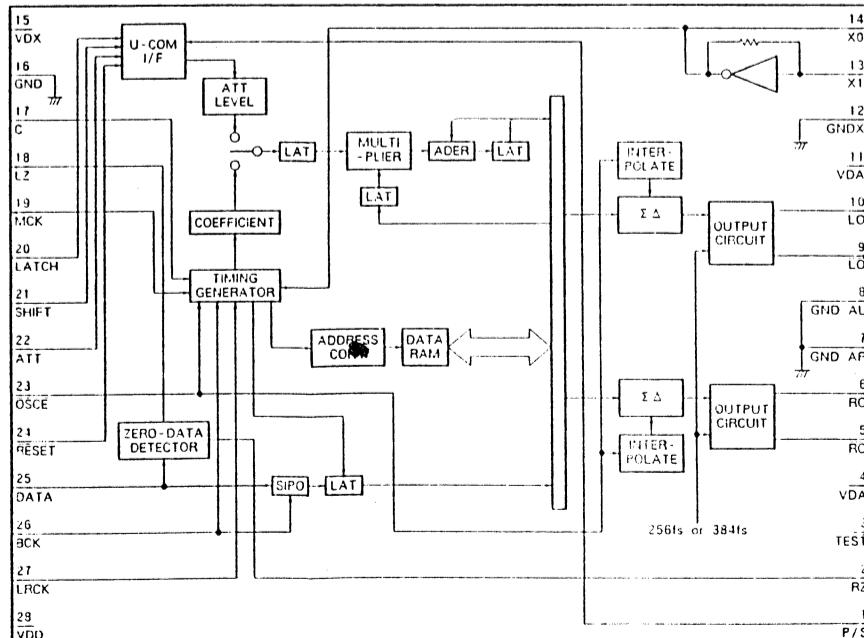
RESISTORS :	Indicated in R , (F) / voltage (V) unless otherwise noted P ; F . Indication without
2. CAPACITORS :	voltage is $50V$ except electrolytic capacitor.
3. VOLTAGE, CURRENT :	Value in (μA) is DC current at stop state.
4. OTHERS :	① : Adjusting point ; \square : Signal route ; \square : Adjustment point.
5. SWITCHES :	This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.
LOADING BOARD ASSEMBLY	Indicated on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical design quality.
SELECT BOARD ASSEMBLY	Marked capacitors and resistors have parts numbers.
S601 : LPS1	5. SWITHCHES : (The underlined indicates the switch position)
S602 : LPS2	This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.
S603 : MZS1	The \square mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical design quality.
S604 : MZS2	② : Marked capacitors and resistors have parts numbers.
S605 : DCHM	③ : Marked capacitors and resistors have parts numbers.
S606 : DCNT	④ : Marked capacitors and resistors have parts numbers.
S610 : INSIDE	MECHANISM BOARD ASSEMBLY
S610 : INSIDE	FUNCTION BOARD ASSEMBLY
S701 : DISC2	S717 : COMPU PGM EDIT
S702 : DISC1	S718 : HI - LITE SCAN
S703 : AUTO FADER	S719 : DISC 3
S704 : DELTE	S720 : DISC 4
S705 : PROGRAM	S721 : ALIC
S717 : COMPU PGM EDIT	S722 : TIME FADE EDIT
S718 : HI - LITE SCAN	S723 : DISC 5
S719 : DISC 3	S724 : DISC 6
S720 : DISC 4	S725 : II (PAUSE)
S721 : ALIC	S726 : REPEAT
S722 : TIME FADE EDIT	S727 : ■ (STOP)
S723 : DISC 5	S728 : TIME
S724 : DISC 6	S729 : ▲ (PLAY)
S725 : II (PAUSE)	S730 : RANDOM PLAY
S726 : REPEAT	S731 : ■ (STOP)
S727 : ■ (STOP)	S732 : ■ (STOP)
S728 : TIME	S733 : ■ (STOP)
S729 : ▲ (PLAY)	S734 : ■ (STOP)
S730 : RANDOM PLAY	S735 : ■ (STOP)
S731 : ■ (STOP)	S736 : ■ (STOP)
S732 : ■ (STOP)	S737 : ■ (STOP)
S733 : ■ (STOP)	S738 : ■ (STOP)
S734 : ■ (STOP)	S739 : ■ (STOP)
S735 : ■ (STOP)	S740 : ■ (STOP)
S736 : ■ (STOP)	S741 : ■ (STOP)
S737 : ■ (STOP)	S742 : ■ (STOP)
S738 : ■ (STOP)	S743 : ■ (STOP)
S739 : ■ (STOP)	S744 : ■ (STOP)
S740 : ■ (STOP)	S745 : ■ (STOP)
S741 : ■ (STOP)	S746 : ■ (STOP)
S742 : ■ (STOP)	S747 : ■ (STOP)
S743 : ■ (STOP)	S748 : ■ (STOP)
S744 : ■ (STOP)	S749 : ■ (STOP)
S745 : ■ (STOP)	S750 : ■ (STOP)
S746 : ■ (STOP)	S751 : ■ (STOP)
S747 : ■ (STOP)	S752 : ■ (STOP)
S748 : ■ (STOP)	S753 : ■ (STOP)
S749 : ■ (STOP)	S754 : ■ (STOP)
S750 : ■ (STOP)	S755 : ■ (STOP)
S751 : ■ (STOP)	S756 : ■ (STOP)
S752 : ■ (STOP)	S757 : ■ (STOP)
S753 : ■ (STOP)	S758 : ■ (STOP)
S754 : ■ (STOP)	S759 : ■ (STOP)
S755 : ■ (STOP)	S760 : ■ (STOP)
S756 : ■ (STOP)	S761 : ■ (STOP)
S757 : ■ (STOP)	S762 : ■ (STOP)
S758 : ■ (STOP)	S763 : ■ (STOP)
S759 : ■ (STOP)	S764 : ■ (STOP)
S760 : ■ (STOP)	S765 : ■ (STOP)
S761 : ■ (STOP)	S766 : ■ (STOP)
S762 : ■ (STOP)	S767 : ■ (STOP)
S763 : ■ (STOP)	S768 : ■ (STOP)
S764 : ■ (STOP)	S769 : ■ (STOP)
S765 : ■ (STOP)	S770 : ■ (STOP)
S766 : ■ (STOP)	S771 : ■ (STOP)
S767 : ■ (STOP)	S772 : ■ (STOP)
S768 : ■ (STOP)	S773 : ■ (STOP)
S769 : ■ (STOP)	S774 : ■ (STOP)
S770 : ■ (STOP)	S775 : ■ (STOP)
S771 : ■ (STOP)	S776 : ■ (STOP)
S772 : ■ (STOP)	S777 : ■ (STOP)
S773 : ■ (STOP)	S778 : ■ (STOP)
S774 : ■ (STOP)	S779 : ■ (STOP)
S775 : ■ (STOP)	S780 : ■ (STOP)
S776 : ■ (STOP)	S781 : ■ (STOP)
S777 : ■ (STOP)	S782 : ■ (STOP)
S778 : ■ (STOP)	S783 : ■ (STOP)
S779 : ■ (STOP)	S784 : ■ (STOP)
S780 : ■ (STOP)	S785 : ■ (STOP)
S781 : ■ (STOP)	S786 : ■ (STOP)
S782 : ■ (STOP)	S787 : ■ (STOP)
S783 : ■ (STOP)	S788 : ■ (STOP)
S784 : ■ (STOP)	S789 : ■ (STOP)
S785 : ■ (STOP)	S790 : ■ (STOP)
S786 : ■ (STOP)	S791 : ■ (STOP)
S787 : ■ (STOP)	S792 : ■ (STOP)
S788 : ■ (STOP)	S793 : ■ (STOP)
S789 : ■ (STOP)	S794 : ■ (STOP)
S790 : ■ (STOP)	S795 : ■ (STOP)
S791 : ■ (STOP)	S796 : ■ (STOP)
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S810 : ■ (STOP)	S815 : ■ (STOP)
S811 : ■ (STOP)	S816 : ■ (STOP)
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S814 : ■ (STOP)	S819 : ■ (STOP)
S815 : ■ (STOP)	S820 : ■ (STOP)
S816 : ■ (STOP)	S821 : ■ (STOP)
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S818 : ■ (STOP)	S823 : ■ (STOP)
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S994 : ■ (STOP)	S999 : ■ (STOP)
S995 : ■ (STOP)	S996 : ■ (STOP)
S996 : ■ (STOP)	S997 : ■ (STOP)
S997 : ■ (STOP)	S998 : ■ (STOP)
S998 : ■ (STOP)	S999 : ■ (STOP)
S999 : ■ (STOP)	S996 : ■ (STOP)

• IC BLOCK DIAGRAMS

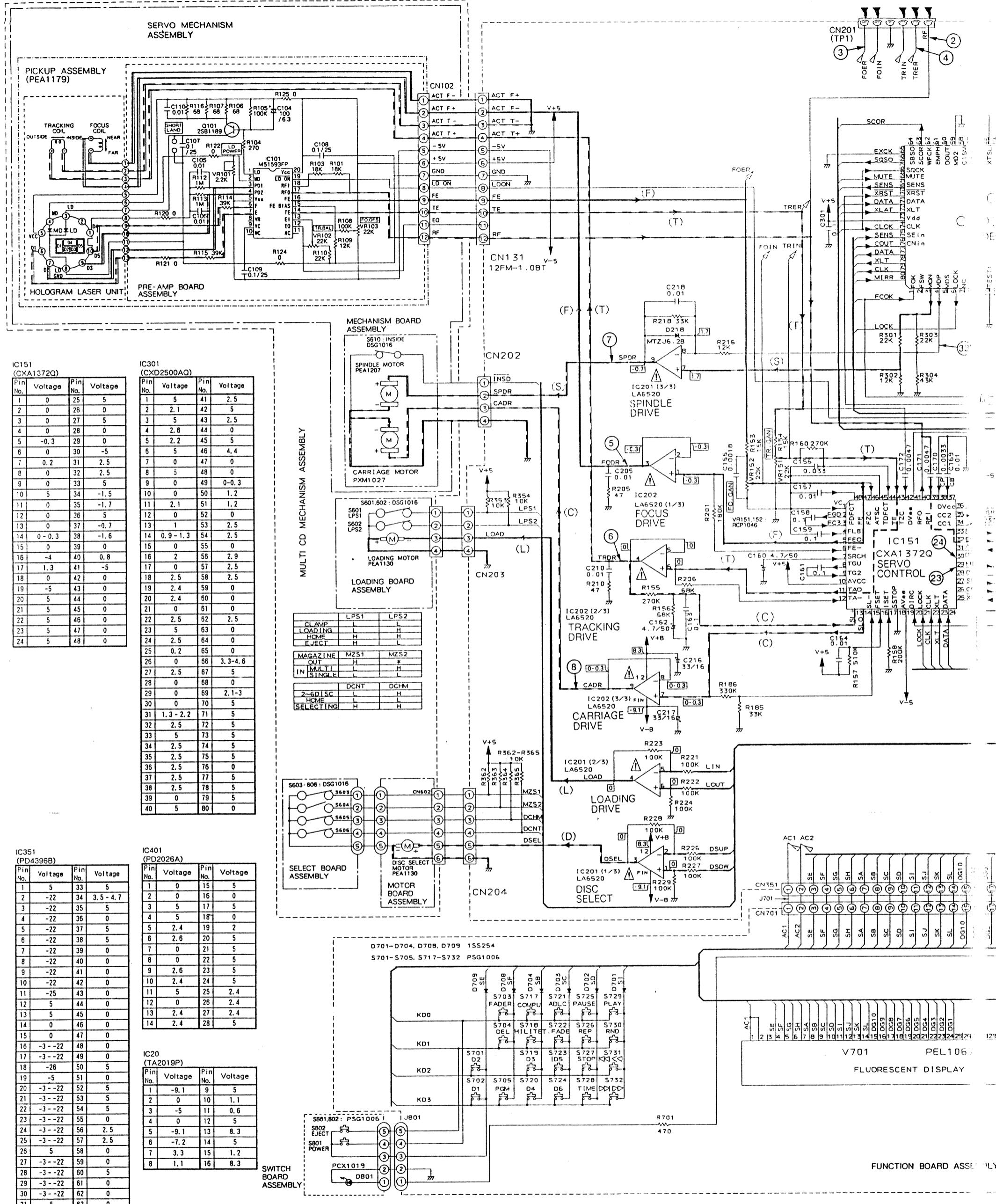
IC301 : CXD2500AQ

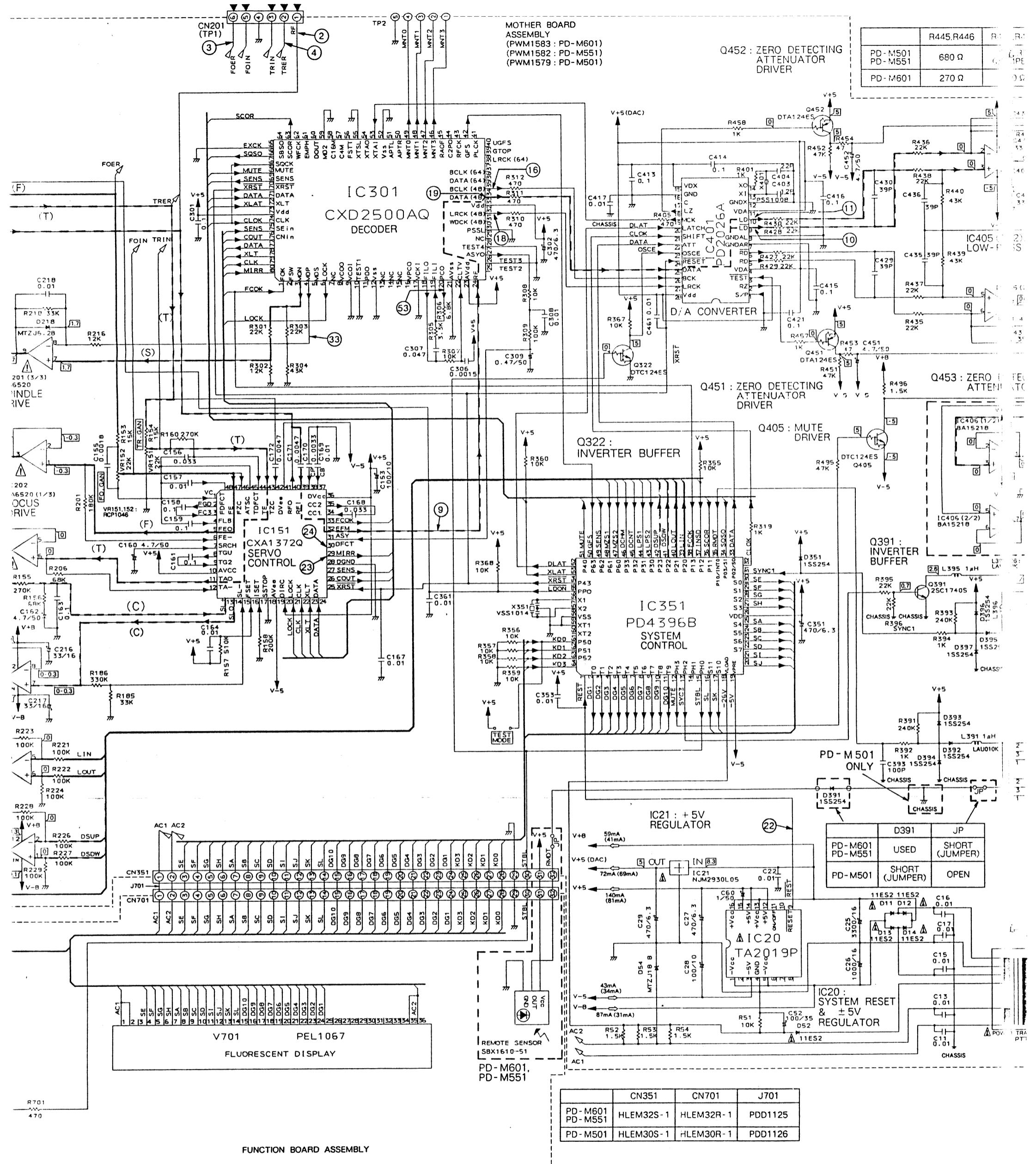


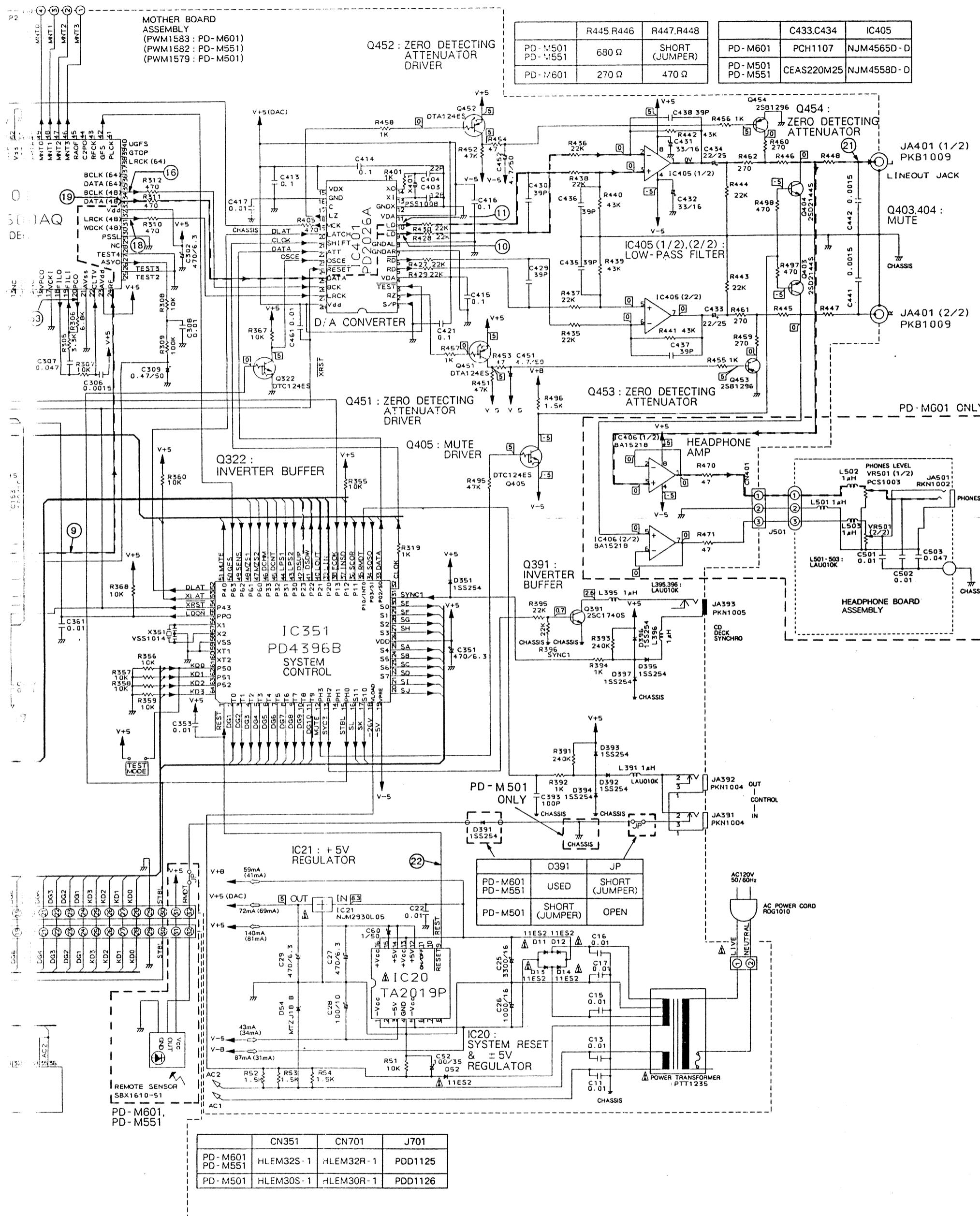
IC401 : PD2026A



5.2 SCHEMATIC DIAGRAM



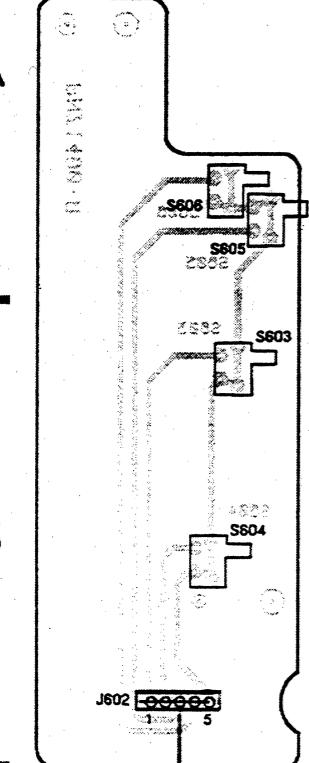




--- : Signal Route
 (F) : Focus Servo Loop Line
 (L) : Loading Motor Route
 (T) : Tracking Servo Loop Line
 (S) : Spindle Motor Route
 (C) : Carriage Motor Route
 (D) : Disc Select Motor Route
 > : Measurement Point

6. P.C.BORDS CONNECTION DIAGRAM

SELECT BOARD ASSEMBLY

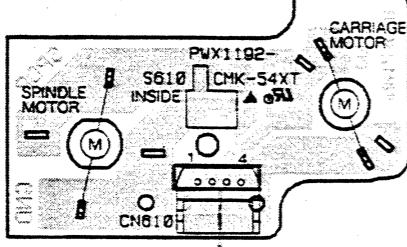


Pin No.	Voltage	Pin No.	Voltage
1	0	25	5
2	0	26	0
3	0	27	5
4	0	28	0
5	-0.3	29	0
6	0	30	-5
7	0.2	31	2.5
8	0	32	2.5
9	0	33	5
10	5	34	-1.5
11	0	35	-1.7
12	0	36	5
13	0	37	-0.7
14	-0.3	38	-1.6
15	0	39	0
16	-4	40	0.8

Pin No.	Voltage	Pin No.	Voltage
11	-6.1	9	5
2	0	10	1.1
3	-5	11	0.5
4	0	12	5
5	-6.1	13	6.3
6	-7.2	14	5
7	3.3	15	1.2
8	1.1	16	8.3

MOTOR BOARD ASSEMBLY

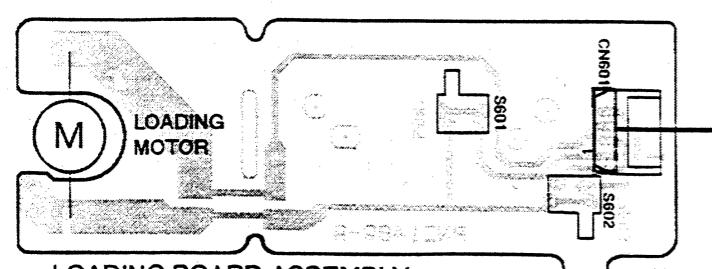
MECHANISM BOARD ASSEMBLY



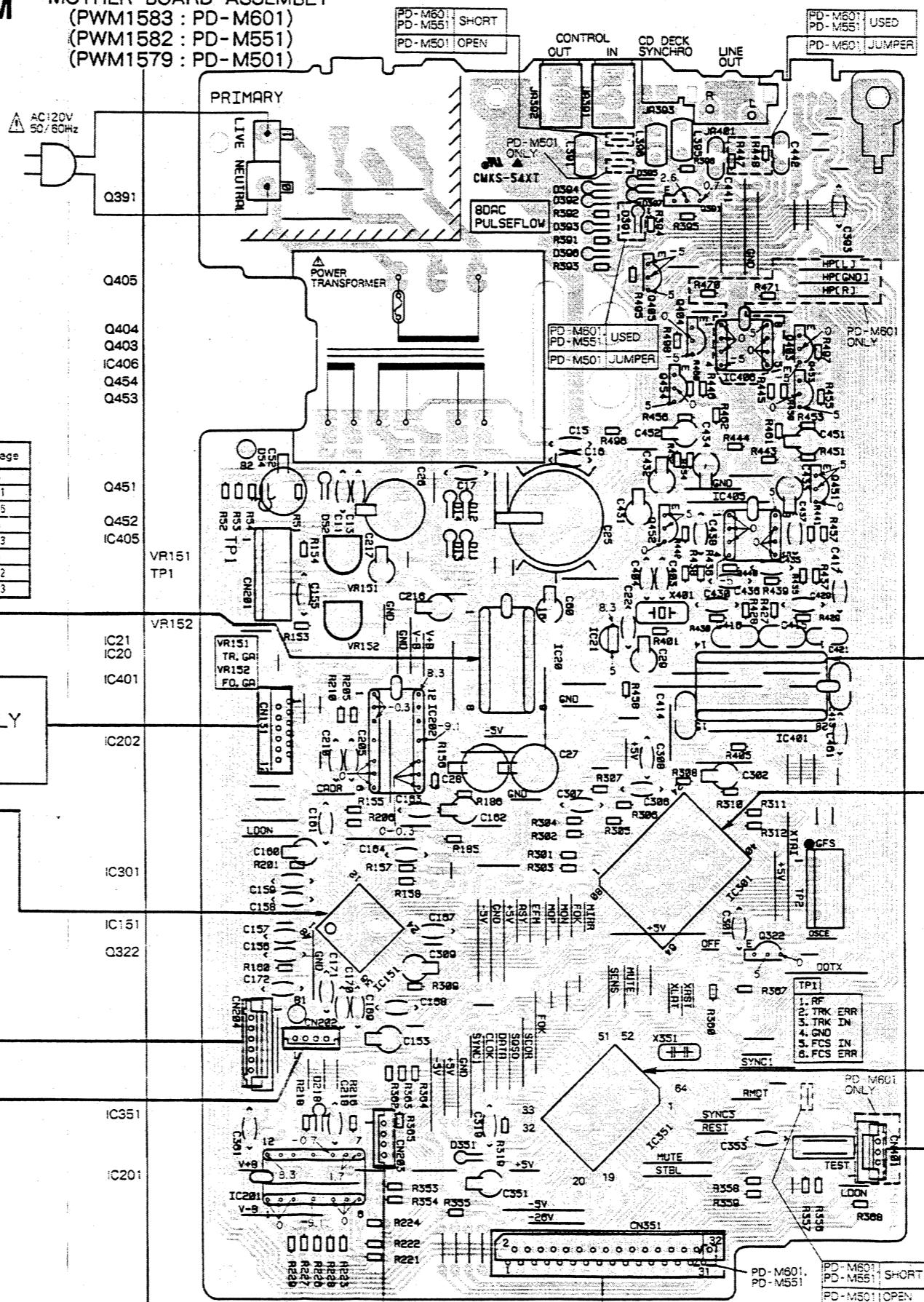
Pin No.	Voltage	Pin No.	Voltage
1	0	25	5
2	0	26	0
3	0	27	5
4	0	28	0

Pin No.	Voltage	Pin No.	Voltage
1	0	25	5
2	0	26	0
3	0	27	5
4	0	28	0

LOADING BOARD ASSEMBLY



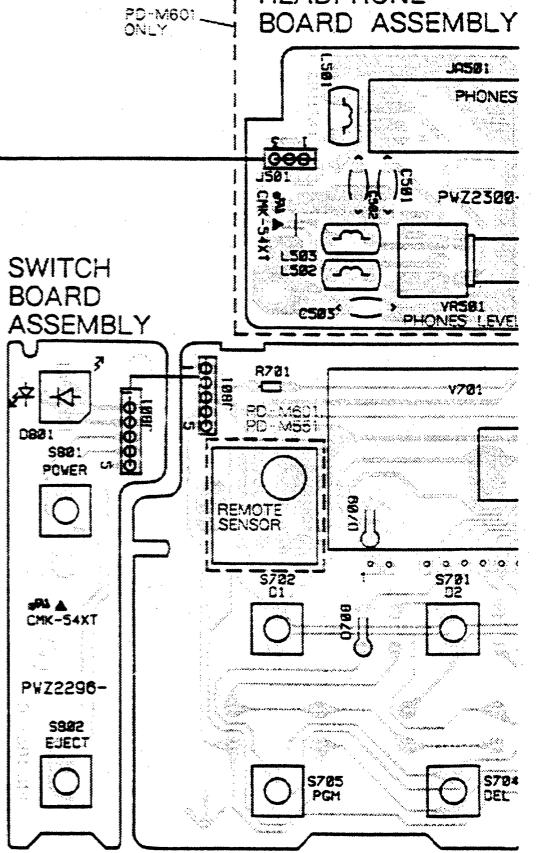
MOTHER BOARD ASSEMBLY (PWM1583 : PD-M601) (PWM1582 : PD-M551) (PWM1579 : PD-M501)



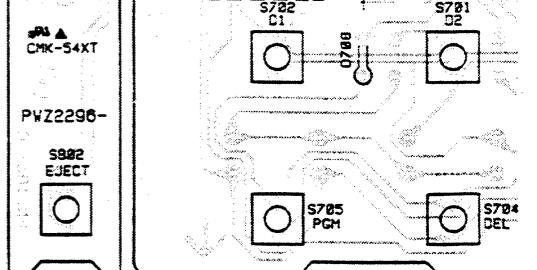
Pin No.	Voltage	Pin No.	Voltage
1	0	15	5
2	0	16	0
3	5	17	5
4	5	18	0
5	2.4	19	2
6	2.5	20	5
7	0	21	5
8	0	22	5
9	2.5	23	5
10	2.4	24	5
11	5	25	2.4
12	0	26	2.4
13	2.4	27	2.4
14	2.4	28	5

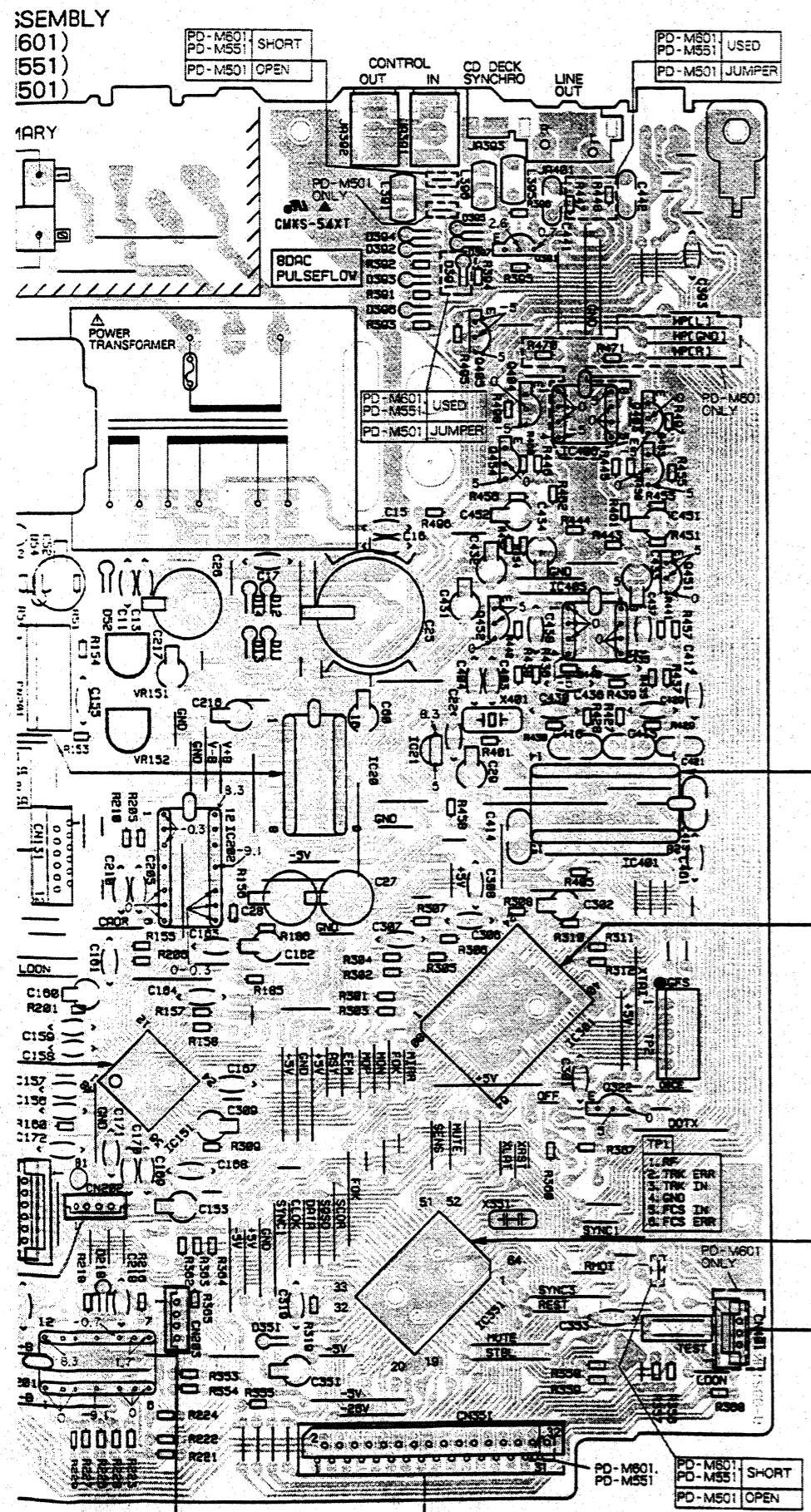
Pin No.	Voltage	Pin No.	Voltage
1	5	33	5
2	-22	34	3.5
3	-22	35	5
4	-22	36	5
5	-22	37	5
6	-22	38	5
7	-22	39	5
8	-22	40	0
9	-22	41	0
10	-22	42	0
11	-25	43	0
12	5	44	0
13	5	45	0
14	0	46	0
15	0	47	0
16	-3-22	48	0
17	-3-22	49	0
18	-5	50	5
19	-5	51	0
20	-3-22	52	5
21	-3-22	53	5
22	-3-22	54	5
23	-3-22	55	0
24	-3-22	56	2
25	-3-22	57	2
26	5	58	0
27	-3-22	59	0
28	-3-22	60	5
29	-3-22	61	0
30	-3-22	62	0
31	5	63	0
32	5	64	0

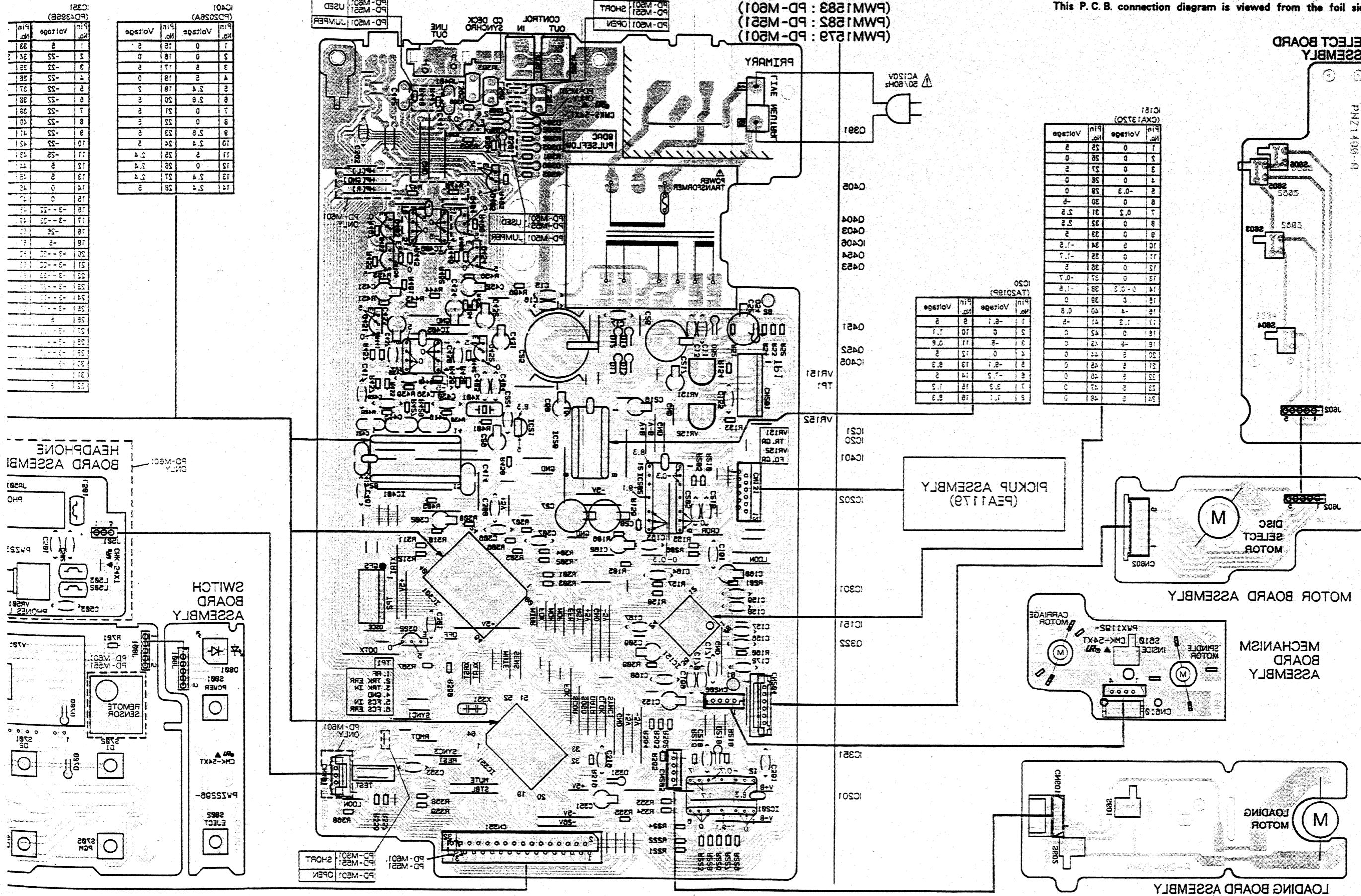
HEADPHONE BOARD ASSEMBLY



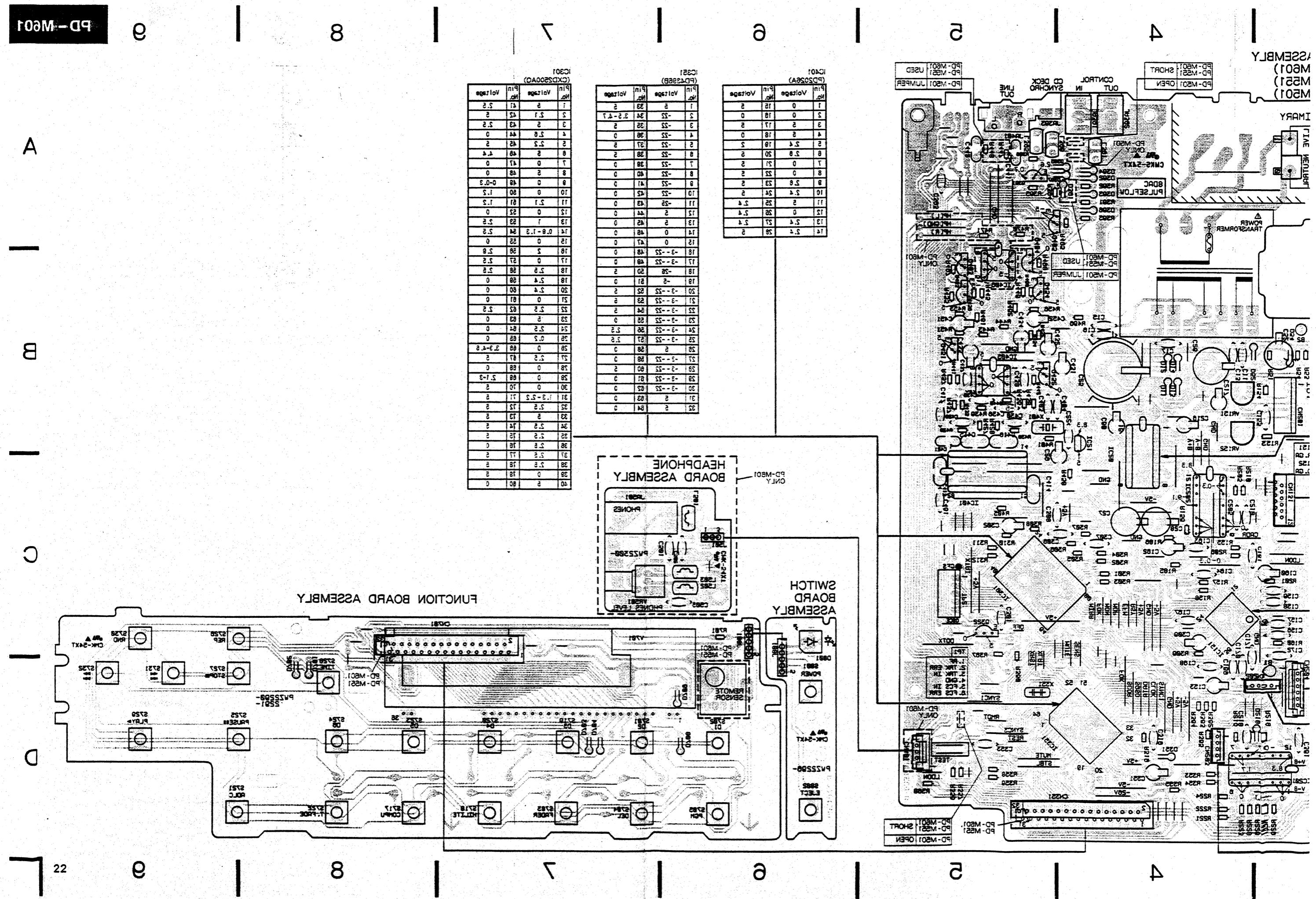
SWITCH BOARD ASSEMBLY







This P. C. B. connection diagram is viewed from the foil side.



7. PCB PARTS LIST

NOTES:

- Part without part number cannot be supplied.
- Parts marked by "◎" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	56 × 10 ³	561	RD1/8PM 5 6 1 J
47k Ω	47 × 10 ³	473	RD1/4PS 4 7 3 J
0.5 Ω	0R5		RN2H 0 R 5 K
1 Ω	010		RS1P 0 1 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	562 × 10 ³	5621	RN1/4SR 5 6 2 1 F
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Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
LIST OF ASSEMBLIES							
◎	Mother board assembly		PWM1583	C11, 13	CERAMIC CAPACITOR	CKCYF103Z50	
	Motor board assembly			C15	CERAMIC CAPACITOR	CKCYF103Z50	
	Mechanism board assembly			C153	ELECTR. CAPACITOR	CEAS101M10	
	Loading board assembly			C155	CERAMIC CAPACITOR	CKCYB182K50	
	Select board assembly			C156	CERAMIC CAPACITOR	CGCYX333K25	
◎	Sub board assembly		PWX1224	C157	CERAMIC CAPACITOR	CGCYX103K25	
	Function board assembly			C158, 159	CERAMIC CAPACITOR	CGCYX104K25	
	Switch board assembly			C16	CERAMIC CAPACITOR	CKCYF103Z50	
	Headphone board assembly			C160	ELECTR. CAPACITOR	CEAS4R7M50	
				C161	CERAMIC CAPACITOR	CGCYX104K25	
◎ MOTHER BOARD ASSEMBLY (PWM1583)							
SEMICONDUCTORS							
△	IC151	SERVO IC	CXA1372Q	C162	ELECTR. CAPACITOR	CEAS4R7M50	
△	IC20	REGULATOR IC	TA2019P	C163	CERAMIC CAPACITOR	CGCYX104K25	
△	IC201, 202	POWER OP-AMP, IC	LA6520	C164	CERAMIC CAPACITOR	CGCYX103K25	
	IC21	REGULATOR, IC	NJM2930L05	C167	CERAMIC CAPACITOR	CKCYF103Z50	
	IC301	EFM DEMODULATION IC	CXD2500AQ	C168	CERAMIC CAPACITOR	CGCYX333K25	
	IC351	MICROCOMPUTER, IC	PD4396B	C169	CERAMIC CAPACITOR	CGCYX103K25	
	IC401	D/A CONVERTER, IC	PD2026A	C17	CERAMIC CAPACITOR	CKCYF103Z50	
	IC405	OP-AMP IC	NJM4565D-D	C170	CERAMIC CAPACITOR	CKCYB332K50	
	IC406	OP-AMP IC	BA15218	C171, 172	CERAMIC CAPACITOR	CKCYB472K50	
	Q322	TRANSISTOR	DTC124ES	C205, 210	CERAMIC CAPACITOR	CKCYF103Z50	
	Q391	TRANSISTOR	2SC1740S	C216, 217	ELECTR. CAPACITOR	CEAS3 30M16	
	Q403, 404	TRANSISTOR	2SD2144S	C218	CERAMIC CAPACITOR	CGCYX103K25	
	Q405	TRANSISTOR	DTC124ES	C22	CERAMIC CAPACITOR	CKCYF103Z50	
	Q451, 452	TRANSISTOR	DTA124ES	C25	ELECTR. CAPACITOR	CEAS3 32M16	
	Q453, 454	TRANSISTOR	2SB1296	C26	ELECTR. CAPACITOR	CEAS1 02M16	
	Q391	TRANSISTOR	2SC1740S	C27	ELECTROLYTIC CAPACIT	CEAS4 71M6R3	
	Q403, 404	TRANSISTOR	2SD2144S	C28	ELECTR. CAPACITOR	CEAS1 01M10	
	Q405	TRANSISTOR	DTC124ES	C29	ELECTROLYTIC CAPACIT	CEAS4 71M6R3	
	Q451, 452	TRANSISTOR	DTA124ES	C301	CERAMIC CAPACITOR	CGCYX104K25	
	Q453, 454	TRANSISTOR	2SB1296	C302	ELECTROLYTIC CAPACIT	CEAS4 71M6R3	
△	D11-14	DIODE	11ES2	C306	CERAMIC CAPACITOR	CKCYB152K50	
	D218	ZENNER DIODE	MTZJ6.2B	C307	CERAMIC CAPACITOR	CGCYX473K25	
	D351	DIODE	1SS254	C308	CERAMIC CAPACITOR	CGCYX103K25	
	D391-397	DIODE	1SS254	C309	ELECTR. CAPACITOR	CEASR47M50	
△	D52	DIODE	11ES2	C351	ELECTROLYTIC CAPACIT	CEAS4 71M6R3	
	D54	ZENNER DIODE	MTZJ18B				
COILS							
	L391	AXIAL INDUCTOR	LAU010K	C353, 361	CERAMIC CAPACITOR	CKCYF103Z50	
	L395, 396	AXIAL INDUCTOR	LAU010K	C393	CERAMIC CAPACITOR	CGCYL101J50	
				C403	CERAMIC CAPACITOR	CGCYH120J50	
				C404	CERAMIC CAPACITOR	CGCYH220J50	
				C413-416	FILM CAPACITOR (0.1 μ)	PC10 32	

Mark No.	Description	Part No.
C417	CERAMIC CAPACITOR	CKCYF103Z50
C-31	FILM CAPACITOR (0.1 μ)	PCL1032
C429, 430	CERAMIC CAPACITOR	CCCCH390J50
C431, 432	ELECTR. CAPACITOR	CEAS330M16
C433, 434	ALUMINUM (22 μ /25V)	PCH1107
C435-438	CERAMIC CAPACITOR	CCCCH390J50
C441, 442	FILM CAPACITOR (0.0015 μ)	PCL1030
C451, 452	ELECTR. CAPACITOR	CEAS4R7M50
C461	CERAMIC CAPACITOR	CKCYF103Z50
C52	ELECTR. CAPACITOR	CEAS101M35
C60	ELECTR. CAPACITOR	CEAS010M50
RESISTORS		
VR151, 152	VR(22k Ω)	RCP1046
OTHER RESISTORS		
		RD1/6PM□□□J
OTHERS		
X351	CERAMIC RESONATOR (4.19MHz)	VSS1014
X401	XTAL RES (OSC) (16.9344MHz)	PSS1008
CN131	CONNECTOR FOR FFC (12P)	12FM-1.0BT
CN351	32P FFC CONNECTOR	HLEM32S-1
JA391, 392	JACK/12V (CONTROL IN, OUT)	PKN1004
JA393	MINI JACK(CD DECK SYNCRO)	PKN1005
JA401	2P PIN JACK (LINE OUT)	PKB1009

MOTOR BOARD ASSEMBLY

Motor board assembly has not service parts.

MECHANISM BOARD ASSEMBLY

SWITCH

S610 PUSH SWITCH (INSIDE) DSG1016

LOADING BOARD ASSEMBLY

SWITCHES

S601, 602 PUSH SWITCH (LPS1, LPS2) DSG1016

SELECT BOARD ASSEMBLY

SWITCHES

S603-606 PUSH SWITCH
(M2S1, M2S2, DCHM, DCNT) DSG1016

Mark No.	Description	Part No.
FUNCTION BOARD ASSEMBLY		
SEMICONDUCTORS		
D701-704	DIODE	1SS254
D708, 709	DIODE	1SS254
SWITCHES		
S701-705	TACT SWITCH (DISC 2, 1, AUTO FADER,) (DELETE, PROGRAM)	PSG1006
S717-732	TACT SWITCH COMPU PGM EDIT, HI-LITE SCAN, DISC 3, 4, ADLC, TIME FADE EDIT, DISC 5, 6, 11, REPEAT, ■, TIME, ▶, RANDOM PLAY, ◀◀ ▶◀, ▶▶ ▶▶	PSG1006

RESISTOR	R701	CARBON FILM RESISTOR	RD1/6PM471J
OTHERS			
REMOTE SENSOR	CN701	32P FFC CONNECTOR	SBX1610-51
	V701	FL INDICATOR TUBE	HLEM32R-1 PEL1067

SWITCH BOARD ASSEMBLY

SEMICONDUCTOR

D801 LED PCX1019

SWITCHES	S801, 802	TACT SWITCH (POWER, EJECT)	PSG1006
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HEADPHONE BOARD ASSEMBLY

COILS

L501-503 AXIAL INDUCTOR LAU010K

CAPACITORS

C501, 502 CERAMIC CAPACITOR CKCYF103Z50
C503 CERAMIC CAPACITOR CKCYF473Z50

RESISTORS

VR501 VARIABLE RESISTOR
(PHONES LEVEL) PCS1003

OTHERS

JA501 HEADPHONE JACK (PHONES) RKN1002

8. ADJUSTMENTS

8.1. Adjustment Methods

If a disc player is adjusted incorrectly or inadequately, it may malfunction or not work at all even though there is nothing at all wrong with the pickup or the circuitry. Adjust correctly following the adjustment procedure.

● Adjustment Items/Verification Items and Order

If the specified values cannot be obtained or no adjustment is possible by performing the verifications or adjustments described in steps 1 – 4, the pickup block may be defective.

Step	Item	Test Point	Adjustment Location
1	Focus offset verification	TP1, Pin 6(FCS. ERR)	None
2	Tracking error balance verification	TP1, Pin 2(TRK. ERR)	None
3	Pickup radial/tangential direction tilt adjustment	TP1, Pin 1(RF)	Radial tilt adjustment screw, Tangential tilt adjustment screw
4	RF level verification	TP1, Pin 1(RF)	None
5	Focus servo loop gain adjustment	TP1, Pin 5(FCS. IN) TP1, Pin 6(FCS. ERR)	VR152(FCS. GAN)
6	Tracking servo loop gain adjustment	TP1, Pin 3(TRK. IN) TP1, Pin 2(TRK. ERR)	VR151(TRK. GAN)

● Abbreviation table

FCS. ERR :Focus Error
 TRK. ERR :Tracking Error
 FCS GAN :Focus Gain
 TRK GAN :Tracking Gain
 FCS. IN :Focus In
 TRK. IN :Tracking In

● Measuring Instruments and Tools

1. Dual trace oscilloscope (10:1 probe)
2. Low-frequency oscillator
3. Test disc (YEDS - 7)
4. Low pass filter (39kΩ +0.001 μF)
5. Resistor (100 kΩ)
6. Standard tools

● Test Point and Adjustment Variable Resistor Positions

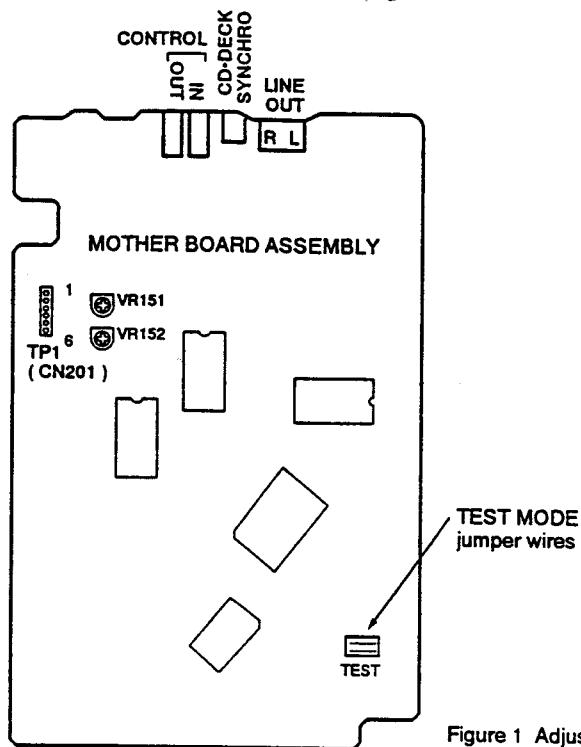


Figure 1 Adjustment Locations

● Notes

1. Use a 10:1 probe for the oscilloscope.
2. All the knob positions (settings) for the oscilloscope in the adjustment procedures are for when a 10:1 probe is used.

● Test Mode

These models have a test mode so that the adjustments and checks required for service can be carried out easily. When these models are in test mode, the keys on the front panel work differently from normal. Adjustments and checks can be carried out by operating these keys with the correct procedure. For these models, all adjustments are carried out in test mode.

[Setting these models to test mode]

How to set this model into test mode.

1. Unplug the power cord from the AC socket.
2. Short the test mode jumper wires. (See Figure 1.)
3. Plug the power cord back into the AC socket.

When the test mode is set correctly, the display is different from what it usually is when the power is turned on. If the display is still the same as usual, test mode has not been set correctly, so repeat Steps 1 – 3.

[Release from test mode]

Here is the procedure for releasing the test mode:

1. Press the STOP key and stop all operations.
2. Unplug the power cord from the AC socket.

[Operations of the keys in test mode]

Code	Key Name	Function in Test Mode	Explanation
	PGM (PROGRAM)	Focus servo close	<p>The laser diode is lit up and the focus actuator is lifted up, then lowered slowly and the focus servo is closed at the point where the objective lens is focused on the disc. With the player in this state, if you lightly rotate the stopped disc by hand, you can hear the sound the focus servo.</p> <p>If you can hear this sound, the focus servo is operating correctly. If you press this key with no disc mounted, the laser diode lights up, the focus actuator is pulled up, then the actuator is lowered and raised three times and returned to its original position.</p>
▶	PLAY	Spindle servo ON	<p>Starts the spindle motor in the clockwise direction and when the disc rotation reaches the prescribed speed (about 500 rpm at the inner periphery), sets the spindle servo in a closed loop.</p> <p>Be careful. Pressing this key when there is no disc mounted makes the spindle motor run at the maximum speed.</p> <p>If the focus servo does not go correctly into a closed loop or the laser light shines on the mirror section at the outermost periphery of the disc, the same symptom is occurred.</p>
□□	PAUSE	Tracking servo close/open	<p>Pressing this key when the focus servo and spindle servo are operating correctly in closed loops puts the tracking servo into a closed loop, displays the track number being played back and the elapsed time on the front panel, and outputs the playback signal.</p> <p>If the elapsed time is not displayed or not counted correctly or the audio is not played back correctly, it may be that the laser is shining on the section with no sound recorded at the outer edge of the disc, that something is out of adjustment, or that there is some other problem.</p> <p>This key is a toggle key and open/close the tracking servo alternately. This key has no effect if no disc is mounted.</p>

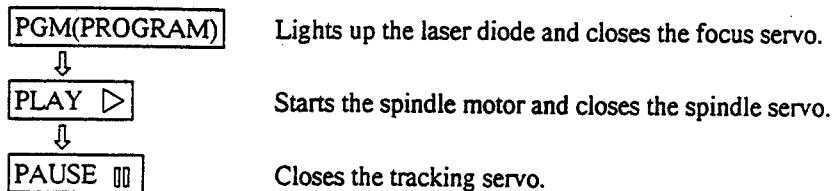
Code	Key Name	Function in Test Mode	Explanation
 . 	TRACK / MANUAL SEARCH REV	Carriage reverse (inwards)	Moves the pickup position toward the inner diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation.
 . 	TRACK / MANUAL SEARCH FWD	Carriage forward (outwards)	Moves the pickup position toward the outer diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation.
	STOP	Stop	Initializes and the disc rotation stops. The pickup and disc remain where they are when this key is pressed.
	EJECT	CD magazine eject	Stores Disc 1 in the CD magazine, then ejects the CD magazine. However, even though the CD magazine is ejected, the pickup does not return to the park position. Even if the CD magazine is mounted again, the pickup remains where it is.

Note : When inserting the magazine, disc 1 of the magazine is loaded automatically.

[How to play back a disc in test mode]

In test mode, since the servos operate independently, playing back a disc requires that you operate the keys in the correct order to close the servos.

Here is the key operation sequence for playing back a disc in test mode.



Wait at least 2-3 seconds between each of these operations.

1. Focus Offset Verification

● Objective	Verify the DC offset for the focus error amp.		
● Symptom when out of adjustment	The model does not focus in and the RF signal is dirty.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 6 (FCS. ERR) [Settings] 5 mV/division 10 ms/division DC mode	● Player state ● Adjustment location ● Disc	Test mode, stopped (just the Power switch on) None None needed
[Procedure]			
Verify the DC voltage at TP1, Pin 6 (FCS. ERR) is 0 ± 50 mV.			

Note : If the specified values cannot be obtained or no adjustment is possible by performing the verifications or adjustments described in adjustment items 1 – 4, the pickup block may be defective.

2. Tracking Error Balance Verification

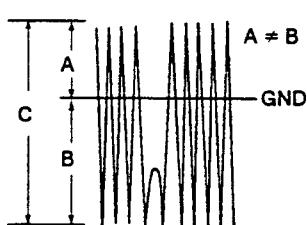
● Objective	To verify that there is no variation in the sensitivity of the tracking photo diode.		
● Symptom when out of adjustment	Play does not start or track search is impossible.		
● Measurement instrument connections	<p>Connect the oscilloscope to TP1, Pin 2 (TRK. ERR). This connection may be via a low pass filter.</p> <p>[Settings] 50 mV/division 5 ms/division DC mode</p>	<p>● Player state</p> <p>● Adjustment location</p> <p>● Disc</p>	<p>Test mode, focus and spindle servos closed and tracking servo open</p> <p>None</p> <p>YEDS-7</p>

[Procedure]

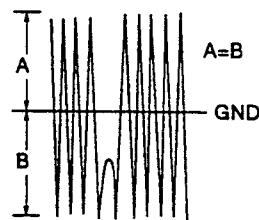
1. Move the pickup to midway across the disc ($R=35$ mm) with the TRACK/MANUAL SEARCH FWD \gg • \gg or REV | \ll • \ll key.
2. Press the PGM (PROGRAM) key, then the PLAY \triangleright key in that order to close the focus servo then the spindle servo.
3. Line up the bright line (ground) at the center of the oscilloscope screen and put the oscilloscope into DC mode.
4. Supposing that the positive amplitude of the tracking error signal at TP1, pin 2 (TRK. ERR) is (A) and the negative amplitude is (B), the following expression is satisfied.

$$A \geq B : \frac{A-B}{C} \times \frac{1}{2} \leq 0.1$$

$$A < B : \frac{B-A}{C} \times \frac{1}{2} \leq 0.1$$



When there is a DC component



When there is no DC component

3. Pickup Radial/Tangential Tilt Adjustment

● Objective	To adjust the angle of the pickup relative to the disc so that the laser beams are shone straight down into the disc for the best read out of the RF signals.		
● Symptom when out of adjustment	Sound broken; some discs can be played but not others.		
● Measurement instrument connections	<p>Connect the oscilloscope to TP1, Pin 1 (RF).</p> <p>[Settings] 20 mV/division 200 ns/division AC mode</p>	<ul style="list-style-type: none"> ● Player state ● Adjustment location ● Disc 	<p>Test mode, play</p> <p>Pickup radial tilt adjustment screw and tangential tilt adjustment screw</p> <p>YEDS-7</p>

[Procedure]

1. Press the TRACK/MANUAL SEARCH FWD \gg - \gg or REV \ll - \ll key to move the pickup to halfway across the disc (R=35mm).
Press the PGM (PROGRAM) key, the PLAY \triangleright key, then the PAUSE \parallel key in that order to close the respective servos and put the player into play mode.
2. First, adjust the radial tilt adjustment screw with a Phillips screwdriver so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly.
3. Next, adjust the tangential tilt adjustment screw with a Phillips screwdriver so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly (Figure 3).
4. Adjust the radial tilt adjustment screw and the tangential tilt adjustment screw again so that the eye pattern can be seen the most clearly. As necessary, adjust the two screws alternately so that the eye pattern can be seen the most clearly.
5. When the adjustment is completed, lock the radial and tangential adjustment screw.

Note: Radial and tangential mean the directions relative to the disc shown in Figure 2.

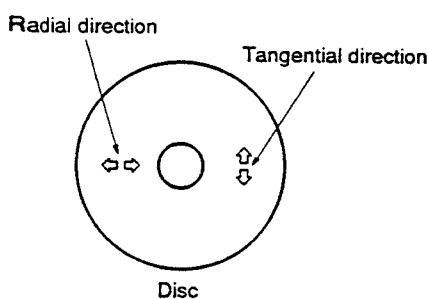
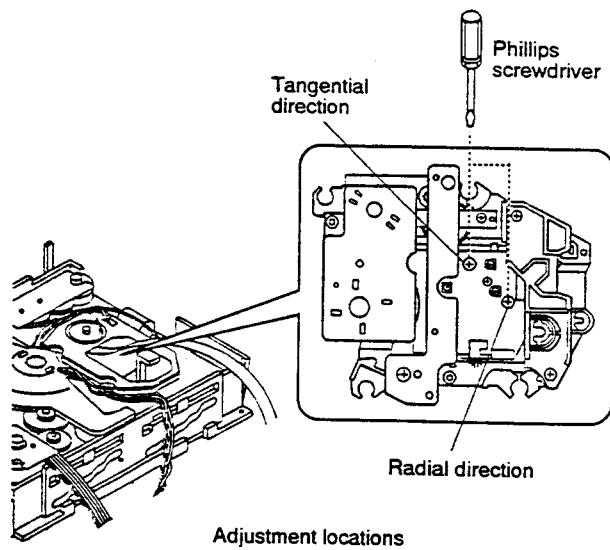


Figure 2



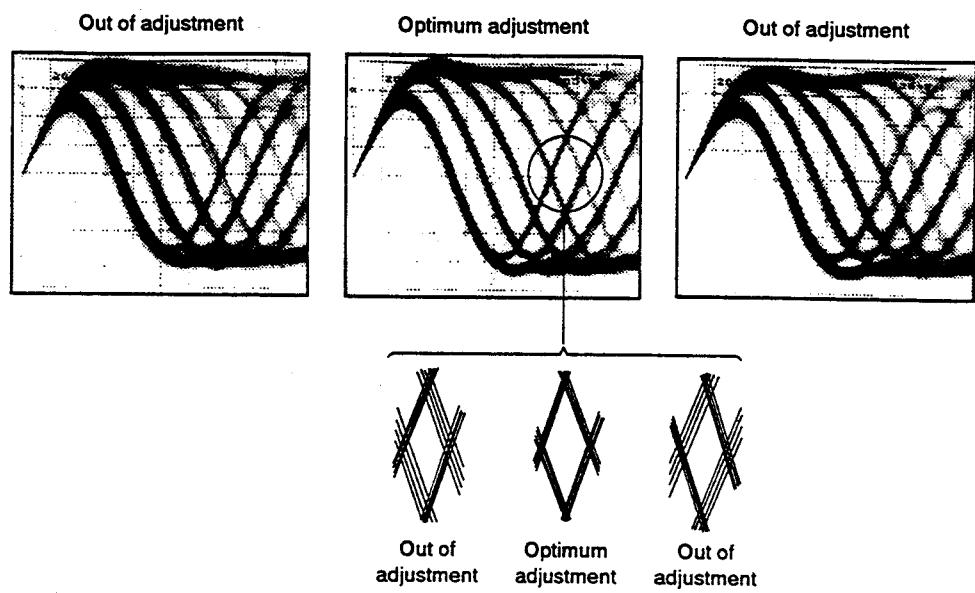


Figure 3 Eye pattern

4. RF Level Verification

● Objective	To verify the playback RF signal amplitude		
● Symptom when out of adjustment	No play or no search		
● Measurement instrument connections	<p>Connect the oscilloscope to TP1, Pin 1 (RF).</p> <p>[Settings] 50 mV/division 10 ms/division AC mode</p>	<ul style="list-style-type: none"> ● Player state ● Adjustment location ● Disc 	<p>Test mode, play</p> <p>None</p> <p>YEDS-7</p>

[Procedure]

1. Move the pickup to midway across the disc (R=35 mm) with the TRACK/MANUAL SEARCH FWD $\triangleright\triangleright$ or REV $\triangleleft\triangleleft$ • $\triangleleft\triangleleft$ key, then press the PGM (PROGRAM) key, the PLAY \triangleright key, then the PAUSE $\square\square$ key in that order to close the respective servos and put the player into play mode.
2. Verify the RF signal amplitude is $1.2\text{ Vp-p} \pm 0.2\text{ V}$.

5. Focus Servo Loop Gain Adjustment

• Objective	To optimize the focus servo loop gain.		
• Symptom when out of adjustment	Playback does not start or focus actuator noisy.		
• Measurement instrument connections	See figure 4. [Settings] CH1 CH2 20 mV/division 5 mV/division X - Y mode	• Player state • Adjustment location • Disc	Test mode, play VR152 (FCS. GAN) YEDS-7

[Procedure]

1. Set the AF generator output to 1.2 kHz and 1 Vp-p.
2. Press the TRACK/MANUAL SEARCH FWD \gg • \gg or REV \ll • \ll key to move the pickup to halfway across the disc (R=35 mm), then press the PGM (PROGRAM) key, the PLAY \triangleright key, then the PAUSE $\|\|$ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR152 (FCS. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

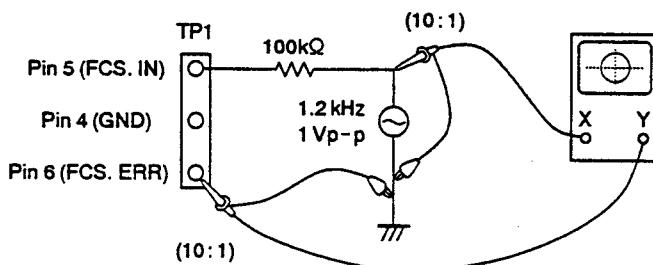
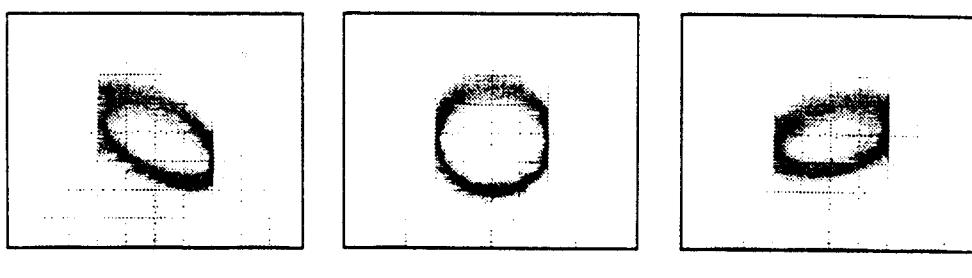


Figure 4

Focus Gain Adjustment



6. Tracking Servo Loop Gain Adjustment

● Objective	To optimize the tracking servo loop gain.		
● Symptom when out of adjustment	Playback does not start, during searches the actuator is noisy, or tracks are skipped.		
● Measurement instrument connections	<p>See Figure 5.</p> <p>[Settings]</p> <p>CH1 CH2 50 mV/division 20 mV/division X-Y mode</p>	<ul style="list-style-type: none"> ● Player state ● Adjustment location ● Disc 	<p>Test mode, play</p> <p>VR151 (TRK. GAN)</p> <p>YEDS-7</p>

[Procedure]

1. Set the AF generator output to 1.2 kHz and 2 Vp-p.
2. Press the TRACK/MANUAL SEARCH FWD \gg or REV \ll key to move the pickup to halfway across the disc (R=35 mm), then press the PGM (PROGRAM) key, the PLAY \triangleright key, then the PAUSE $\|$ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR151 (TRK. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

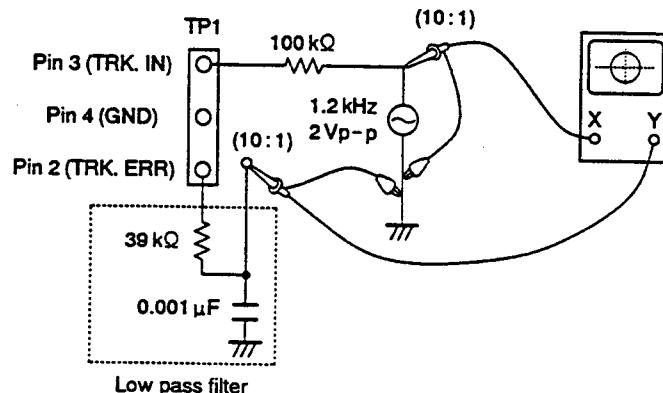
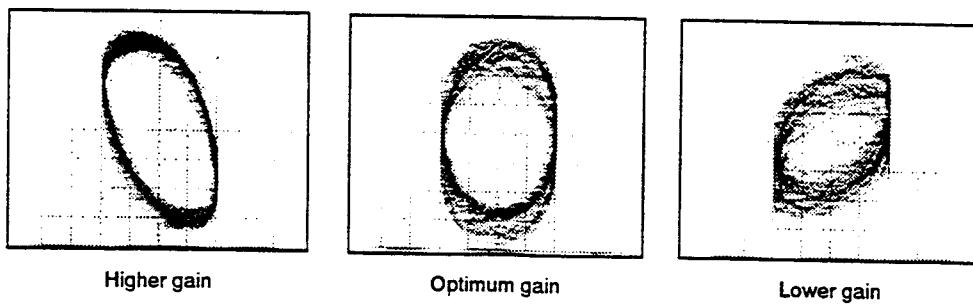


Figure 5

Tracking Gain Adjustment



◎ MOTHER BOARD ASSEMBLY (PWM1582 and PWM1579)

PWM1582, PWM1579 and PWM1583 have the same construction except for the following :

Mark	Symbol & Description	Part No.			Remarks
		PWM1583	PWM1582	PWM1579	
	IC405 IC406 D391 C433, 434 (22 μ /25V) C433, 434 R445, 446 R447, 448 R470, 471 CN351 (32P FFC connector) CN351 (30P FFC connector)	NJM4565D-D BA15218 1SS254 PCH1107	NJM4558D-D	NJM4558D-D	
		RD1/6PM271J RD1/6PM471J RD1/6PM470J HLEM32S-1	RD1/6PM681J	RD1/6PM681J	
			HLEM32S-1	HLEM30S-1	

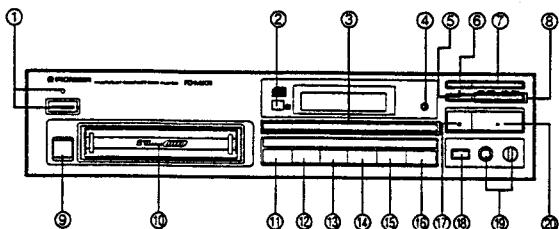
FUNCTION BOARD ASSEMBLY

Function board assembly of PD - M551 and PD - M501 and Function board assembly of PD - M601 have the same construction except for the following :

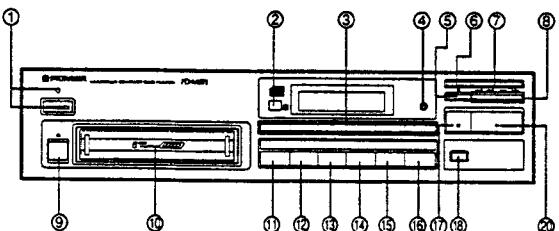
Mark	Symbol & Description	Part No.			Remarks
		PD-M601	PD-M551	PD-M501	
	CN701 (32P FFC connector) CN701 (30P FFC connector) Remote sensor	HLEM32R-1	HLEM32R-1	
		SBX1610-51	SBX1610-51	HLEM30R-1	

10. PANEL FACILITIES

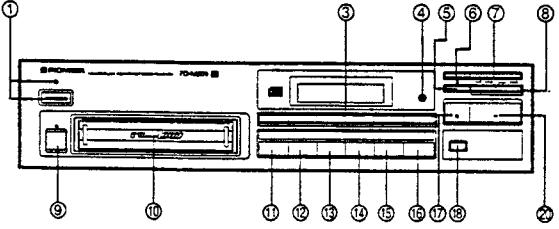
PD-M601



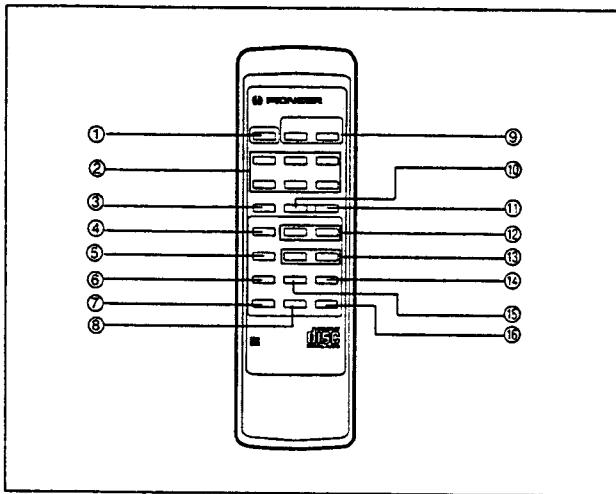
PD-M551



PD-M501



- ⑯ AUTO FADER button
- ⑯ HI-LITE SCAN button
- ⑯ COMPU PGM EDIT button
- ⑯ TIME FADE EDIT button
- ⑯ Pause button (■)
- ⑯ ADLC (Automatic Digital Level Controller) button
- ⑯ Headphones jack (PHONES) and headphones volume control (PHONES LEVEL) (PD-M601 only)
- ⑯ Play button (▶)



REMOTE CONTROL UNIT (PD-M601/PD-M551 only)

Remote control buttons with the same names or marks as buttons on the front panel of the player control the same operations as the corresponding front panel buttons.

- ① POWER button
- ② DISC NUMBER buttons (1 - 6)
- ③ STOP button (■)
- ④ RANDOM PLAY button
- ⑤ HI-LITE SCAN button
- ⑥ FADER button
- ⑦ ADLC (Automatic Digital Level Controller) button
- ⑧ CHECK button
- ⑨ OUTPUT LEVEL buttons (+/-)
- ⑩ PAUSE button (■)
- ⑪ PLAY button (▶)
- ⑫ MANUAL search buttons (◀◀◀▶▶▶)
- ⑬ TRACK search buttons (◀◀◀▶▶▶)
- ⑭ DELETE button
- ⑮ PGM (program) button
- ⑯ CLEAR button

FRONT PANEL

- ① POWER STANDBY/ON switch and STANDBY indicator
- ② Remote sensor (PD-M601/PD-M551 only)
Receives the signal from the remote control unit.
• The PD-M501 is not equipped with the remote sensor.
- ③ Disc number buttons (DISC 1 - DISC 6)
- ④ TIME button
- ⑤ Stop button (■)
- ⑥ REPEAT button
- ⑦ RANDOM PLAY button
- ⑧ Track/Manual search buttons (◀◀◀▶▶▶)
- ⑨ EJECT button (▲)
- ⑩ Magazine insertion slot
- ⑪ PROGRAM button
- ⑫ DELETE button

11. SPECIFICATIONS

1. General

Type	Compact disc digital audio system
Power requirements	
U.K. and Australian models	AC 220 - 240 V, 60 Hz
U.S. and Canadian models	AC 120 V, 60 Hz
Other models	AC 110 - 127V/220 - 240 V (switchable), 50/60 Hz
Power consumption	
U.S. and Canadian models	12 W
U.K., Australian and other models	14 W
Operating temperature	+5°C - +35°C (+41°F - +95°F)
Weight	3.8 kg (8 lb, 6 oz)
External dimensions	
PD-M601/PD-M551	420 (W) X 291(D) X 105 (H) mm 16-9/16 (W) X 11-7/16 (D) X 4-1/8 (H) in
PD-M501	420 (W) X 291(D) X 100 (H) mm 16-9/16 (W) X 11-7/16 (D) X 3-15/16 (H) in

2. Audio section

Frequency response	2 Hz - 20 kHz
S/N ratio	102 dB or more (EIAJ)
Dynamic range	96 dB or more (EIAJ)
Harmonic distortion	0.003% or less (EIAJ)
Output voltage	2.0V
Wow and flutter	Limit of measurement (±0.001% W.PEAK) or less (EIAJ)
Channels	2-channel (stereo)

3. Output terminal

Audio line output	
Headphone jack with volume control (PD-M601/PD-M551 only)	
Control input/output jacks (available with the PD-M551/PD-M501 and U.S. and Canadian models of the PD-M601)	
CD-DECK SYNCHRO jack	

4. Accessories

● Remote control unit (PD-M601/PD-M551 only)	1
● Size AAA/R03/dry batteries (PD-M601/PD-M551 only)	2
● Six-compact-disc magazine	1
● Control cord (provided with PD-M551/PD-M501 and U.S. and Canadian models of PD-M601 only)	1
● Output cord	1
● Operating instructions	1

NOTE:

Specifications and design subject to possible modification without notice, due to improvements.

The Magazine Type Multi-Play CD Players with  mark and the Magazines with the same mark are compatible for 5-inch (12cm) discs.